

## INTRODUCTION

The status of and trends in birth outcomes in the United States have become issues of national concern. The United States' unfavorable ranking among developed countries with respect to infant mortality,<sup>1</sup> as well as some recent setbacks in continued improvements in infant mortality rates, have contributed to widespread concerns that not enough is being done to prevent infant deaths in this country.<sup>2</sup> The poor international ranking of the United States in infant mortality is mainly due to this country's high incidence of low birth weight.<sup>3</sup> Low birth weight infants are at an increased risk of dying, particularly during the neonatal period, and contribute disproportionately to high rates of infant mortality. Historically, success in reducing infant mortality rates in this country has come primarily by improvements in birth weight-specific mortality rates, while the rate of low birth weight has improved relatively little. Large racial disparities also exist with regard to rates of low birth weight and infant mortality. Rates of infant mortality and low birth weight are consistently higher among blacks than among whites.<sup>4</sup>

Many programs have been employed in an effort to improve birth outcomes in the United States. Most have focused on the period of pregnancy, particularly on increasing the use of prenatal care.<sup>2</sup> Less attention has been given to opportunities for intervention before pregnancy. Preconceptional methods may be more effective because a healthy pregnancy begins before pregnancy. By the time a pregnancy is established, many risk factors already have been determined.<sup>4</sup> For these reasons, increasing the use of family planning services has been proposed by the Institute of Medicine<sup>4</sup> and others<sup>2,5,6,7</sup> as a preventive strategy to combat high rates of low birth weight and infant mortality before the period of pregnancy.

Increasing the use of family planning services could affect birth outcomes in several ways. An important goal of family planning services is to help women avert unintentional pregnancies. Women who become pregnant unintentionally are more likely to have poor birth outcomes<sup>8</sup> and less likely to seek early prenatal care.<sup>9</sup> Unwanted and unplanned children are also at an increased risk for abuse and neglect.<sup>10</sup> Family planning services may ensure that births are better timed. For example, by using a reliable form of contraception, young, sexually active women may postpone pregnancy until their education is complete and until they are in a more secure social and economic situation. Women also can avoid the negative health consequences of a short

interval between pregnancies by practicing a method of contraception following a birth or other pregnancy termination.<sup>11,12</sup>

Use of family planning services also offers an opportunity for health education and pregnancy counseling before conception. Women may receive information about the importance of prenatal care so they quickly initiate testing and prenatal care if they suspect a pregnancy. Women may also be counseled about possible pregnancy risk factors so they can make informed decisions about pregnancy. For example, a woman may decide to continue practicing contraception until she has quit smoking. Other risk factors that can be recognized and dealt with before pregnancy include alcohol use, substance abuse, poor nutritional status, susceptibility to rubella, obesity, and poor diabetic management.<sup>4</sup> The reduction of risk factors prior to conception will offer more benefit to the mother and child than waiting until after the pregnancy has been established.<sup>4</sup> In general, improved health in the preconceptional period will result in improved health for the mother and child during and after pregnancy.

To increase the effect of family planning services on birth outcomes in the United States, specific high-risk populations should be targeted. Women who are poor, black, young, undereducated, or unmarried are at increased risk for a poor pregnancy outcome.<sup>4,13</sup> Births to these women contribute disproportionately to overall rates of low birth weight and infant mortality. These women also are more likely to have an unintentional pregnancy<sup>8,14</sup> and less likely to regularly use a method of contraception.<sup>15</sup>

Although there are a number of reasons to suspect that family planning may help improve birth outcomes, there has been only limited research addressing this issue.

Several studies using county-level data suggest that increasing the availability of family planning services in a county would reduce the neonatal mortality rate, especially among blacks.<sup>16,17,18,19</sup> However, interpretation of studies that use data for geographic areas to suggest that individuals would benefit from family planning services may be subject to error. These types of studies can not determine whether the individuals who received family planning services had better birth outcomes.

There has been even less effort to directly assess the effects on individuals of participation in family planning services. A study by Kaufman and Buescher